

## CLAIMS

What is claimed is:

1. A device for stabilizing a patient's head on a spine board comprising:
  - a head harness;
  - means for securing the head harness to a spine board;
  - means for securing a patient's head in the head harness;
  - means for preventing the patient's from being elevated; and
  - means for allowing the patient's head to move longitudinally and rotationally on the spine board in conjunction with the patients body.
2. The device of claim 1, wherein the head harness comprises:
  - a main panel;
  - two side panels each extending laterally from the main panel such that one side panel extends from each side of the main panel, two attachment straps, each extending laterally from the main panel of the head harness and each having an upper surface and a lower surface;
  - the main panel and each of the side panels having an interior surface and an exterior surface; and
  - the means for securing the head harness to a spine board is a layer of adhesive covering an area on the lower surface of the end of the attachment straps that is opposite the

main panel of the head harness, the layer of adhesive having an easily removable protective cover.

3. The device of claim 2, wherein there is a portion of hook in loop material located on the interior surface of the side panels and a portion of hook in loop material located on the exterior surface of the side panels; and the means for securing a patient's head in the head harness is a forehead strap, a chin strap, and a crown strap;

the forehead strap having hook in loop material located on the surface of the forehead strap that will not be facing the forehead of a patient on a spine board and a layer of adhesive material located on the surface of the forehead strap that will be facing the forehead of a patient on a spine board, the layer of adhesive having an easily removable protective cover,

the chin strap having hook in loop material located at the ends of the chin strap on the surface of the chin strap that will be facing a patient on a spine board;

the crown strap having a portion hook in loop material located at the ends of the crown strap on the surface of the crown strap that will be facing a patient on a spine board;

whereby the hook in loop material on the exterior surface of the side panels can be engaged with the hook in loop material on the chin strap and the hook in loop material on the crown strap; and

the hook in loop material on the interior surface of the side panels can be engaged with the hook in loop material on the forehead strap.

4. The device of claim 3, wherein there is a portion of hook in loop material on the upper surface of the end of the attachment straps that is opposite the main panel of the head

harness, and the means for preventing the patient's from being elevated is a lateral stabilization strap;

the lateral stabilization strap having hook in loop material located on the surface of the lateral stabilization strap that will be facing the forehead of a patient on a spine board;

whereby the hook in loop material on the lateral stabilization strap can be engaged with the hook in loop material on the forehead strap and the hook in loop material on the attachment straps.

5. The device of claim 4 wherein there is a support cushion on the interior surface of the main panel, and the means for allowing the patient's head to move longitudinally and rotationally on the spine board in conjunction with the patients body is a skid plate on the lower surface of the main panel;

the skid plate having a plurality of runners running longitudinally along the lower surface of the skid plate, the runners being adapted for low friction engagement with a spine board;

whereby when a patient wearing a cervical collar, with a chin cup, is located on a spine board, the head harness is positioned under the patient and attached to the spine board, the forehead strap is secured to the patient's forehead and attached to the head harness, the chin strap is routed across the chin portion of the cervical collar and attached to the head harness, the crown strap is routed across the crown of the patient's head and attached to the head harness; and the lateral stabilization strap is attached to the forehead strap and the attachment straps, the patient's head cannot move laterally or be elevated, but the patient's

head can move longitudinally or rotate off of the longitudinal axis in conjunction with the patient's body.

6. The device of claim 5 wherein the head harness, the attachment straps, the chin strap, the crown strap, and the lateral stabilization strap are made from a flexible material that will not become saturated with fluids and having sufficient strength to secure a patient's head to a spine board during transportation to a medical facility without breaking or stretching.

7. A device for stabilizing a patient's head on a spine board comprising:

a head harness having a main panel, two side panels each extending laterally from the main panel such that one side panel extends from each side of the main panel, two attachment straps, each extending laterally from the main panel of the head harness and each having an upper surface and a lower surface

the main panel and each of the side panels having an interior surface and an exterior surface;

each of the attachment straps having one end secured to the head harness and having a free end opposite the end that is secured to the head harness;

the head harness further having a support cushion on the interior surface of the main panel, and a skid plate on the exterior surface of the main panel;

the skid plate having a plurality of runners running longitudinally along the lower surface of the skid plate, the runners being adapted for low friction engagement with a spine board;

the device further comprising a forehead strap;

a chin strap;

a crown strap;

a lateral stabilization strap;

means for attaching the attachment straps to a spine board;

means for attaching the forehead strap to the head harness;

means for securing the forehead strap to the forehead of a patient placed on the spine board;

means for attaching the lateral stabilization strap to the forehead strap;

means for attaching the lateral stabilization strap to the attachment straps;

means for attaching the chin strap to the head harness;

means for attaching the crown strap to the head harness;

whereby when a patient wearing a cervical collar, with a chin cup, is located on a spine board, the head harness is positioned under the patient and attached to the spine board, the forehead strap is secured to the patient's forehead and attached to the head harness, the chin strap is routed across the chin cup of the cervical collar and attached to the head harness, the crown strap is routed across the crown of the patient's head and attached to the head harness; and

the lateral stabilization strap is attached to the forehead strap and the attachment straps, the patient's head cannot move laterally or be elevated, but the patient's head can move longitudinally or rotate off of the longitudinal axis in conjunction with the patient's body.

8. The device of claim 7 wherein the means for attaching the attachment straps to a spine board is a layer of adhesive covering an area at the free end of the attachment straps on the lower surface of the attachment straps, the layer of adhesive having an easily removable protective cover

whereby the cover can be removed from the layer of adhesive on each attachment strap, and the ends of the attachment strap can be temporarily secured to a spine board by placing the adhesive material in contact with the spine board and applying pressure to the attachment straps.

9. The device of claim 8 wherein the means for attaching the forehead strap to the head harness is a portion of hook in loop material located on the interior surface of the side panels and hook in loop material located on the surface of the forehead strap that will not be facing the forehead of a patient on a spine board;

whereby the hook in loop material on the upper surface of the side panels can be engaged with the hook in loop material on the forehead strap.

10. The device of claim 9 wherein the means for securing the forehead strap to the forehead of a patient placed on the spine board is a layer of adhesive material located on the surface of the forehead strap that will not be facing the forehead of a patient on a spine board, the layer of adhesive having an easily removable protective cover;

whereby the cover can be removed from the layer of adhesive material and the forehead strap can be temporarily secured to a patient's forehead by firmly placing the adhesive material in contact with the patient's forehead.

11. The device of claim 10 wherein the means for attaching the lateral stabilization strap to the forehead strap is a portion of hook in loop material located on the surface of the lateral stabilization strap that will be facing the forehead of a patient on a spine board;

whereby the hook in loop material on the lateral stabilization strap can be engaged with the hook in loop material on the forehead strap

12 The device of claim 11 wherein the means for attaching the lateral stabilization strap to the attachment straps is a portion of hook in loop material located at the ends of the lateral stabilization strap on the surface of the lateral stabilization strap that will be facing the forehead of a patient on a spine board and a portion of hook in loop material located at the end of the attachment straps on the upper surface of the attachment straps;

whereby the hook in loop material on the lateral stabilization strap can be engaged with the hook in loop material on the forehead strap and the hook in loop material on the attachment straps.

13. The device of claim 7 wherein the means for attaching the chin strap to the head harness is a portion of hook in loop material located on the exterior surface of the side panels and a portion of hook in loop material located at the ends of the chin strap on the surface of the chin strap that will be facing a patient on a spine board;

whereby the hook in loop material on the exterior surface of the side panels can be engaged with the hook in loop material on the chin strap.

14. The device of claim 13 wherein the means for attaching the crown strap to the head harness is a portion of hook in loop material located at the ends of the crown strap on the surface of the crown strap that will be facing a patient on a spine board;

whereby the hook in loop material on the exterior surface of the side panels can be engaged with the hook in loop material on the crown strap.

15. The device of claim 7 wherein the head harness, the attachment straps, the chin strap, the crown strap, and the lateral stabilization strap are made from a flexible material that will not become saturated with fluids and having sufficient strength to secure a patient's head to a spine board during transportation to a medical facility without breaking or stretching.

16. A device for stabilizing a patient's head on a spine board comprising:

a head harness having an interior surface and an exterior surface;

the head harness further having a main panel, two side panels each extending laterally from the main panel such that one side panel extends from each side of the main panel, two attachment straps each extending laterally from the head harness, a support cushion on the interior surface of the main panel, and a skid plate on the exterior surface of the main panel;

each of the attachment straps being secured to the head harness and having a free end opposite the main panel of the head harness;

the skid plate having a plurality of runners running longitudinally along the lower surface of the skid plate and the runners being adapted for low friction engagement with a spine board;



a forehead strap;

a chin strap;

a crown strap;

a lateral stabilization strap;

a layer of adhesive covering an area at the free end of the attachment straps on the lower surface of the attachment straps, the layer of adhesive having an easily removable protective cover such that the cover can be removed from the layer of adhesive on each attachment strap, and the ends of the attachment strap can be temporarily secured to a spine board by placing the adhesive material in contact with the spine board and applying pressure to the attachment straps;

a portion of hook in loop material located on the interior surface of the side panels and hook in loop material located on the surface of the forehead strap that will not be facing the forehead of a patient on a spine board, such that the hook in loop material on the interior surface of the side panels can be engaged with the hook in loop material on the forehead strap;

a layer of adhesive material located on the surface of the forehead strap that will not be facing the forehead of a patient on a spine board, the layer of adhesive having an easily removable protective cover the cover can be removed from the layer of adhesive material and the forehead strap can be temporarily secured to a patient's forehead by firmly placing the adhesive material in contact with the patient's forehead;

a portion of hook in loop material located on the exterior surface of the side panels and a portion of hook in loop material located at the ends of the chin strap on the surface of the chin strap that will be facing a patient on a spine board, such that the hook in loop

material on the exterior surface of the side panels can be engaged with the hook in loop material on the chin strap;

a portion hook in loop material located at the ends of the crown strap on the surface of the crown strap that will be facing a patient on a spine board, such that the hook in loop material on the lower surface of the side panels can be engaged with the hook in loop material on the crown strap;

a portion of hook in loop material located on the surface of the lateral stabilization strap that will be facing the forehead of a patient on a spine board, such that the hook in loop material on the lateral stabilization strap can be engaged with the hook in loop material on the forehead strap;

a portion of hook in loop material located at the ends of the lateral stabilization strap on the surface of the lateral stabilization strap that will be facing the forehead of a patient on a spine board and a portion of hook in loop material located at the free end of the attachment straps on the upper surface of the attachment straps, such that the hook in loop material on the lateral stabilization strap can be engaged with the hook in loop material on the forehead strap;

whereby when a patient wearing a cervical collar, with a chin cup, is located on a spine board, the head harness is positioned under the patient and attached to the spine board, the forehead strap is secured to the patient's forehead and attached to the head harness, the chin strap is routed across the chin cup of the cervical collar and attached to the head harness, the crown strap is routed across the crown of the patient's head and attached to the head harness; and

the lateral stabilization strap is attached to the forehead strap and the attachment straps the patient's head cannot move laterally or be elevated, but the patient's head can move longitudinally or rotate off of the longitudinal axis in conjunction with the patient's body.

17. The device of claim 16 wherein the head harness, the attachment straps, the chin strap, the crown strap, and the lateral stabilization strap are made from vinyl-coated polyester.

18. The method of stabilizing the head of a patient on a spine board comprising the steps of:

- (a) determining the need to secure a patient to a spine board;
- (b) placing a cervical collar, having a chin cup, on the patient's neck;
- (c) positioning the patient on a spine board;
- (d) selecting device for stabilizing a patient's head on a spine board having a forehead strap, a chin strap, a crown strap, a lateral stabilization strap and a head harness having an interior surface and an exterior surface;

the head harness further having a main panel, two side panels each extending laterally from the main panel such that one side panel extends from each side of the main panel, two attachment straps each extending laterally from the head harness, a support cushion on the interior surface of the main panel, and a skid plate on the exterior surface of the main panel;

each of the attachment straps being secured to the head harness and having a free end opposite the main panel of the head harness;

the skid plate having a plurality of runners running longitudinally along the lower surface of the skid plate and the runners being adapted for low friction engagement with a spine board under the patient's head;

- (e) properly aligning the head harness on the spine board;
- (f) attaching the head harness to the spine board with the attachment straps;
- (g) determining the required length of the forehead strap;
- (h) adjusting the length of the forehead strap;
- (i) attaching one end of the forehead strap to the head harness;
- (j) securing the forehead strap to the patient's forehead;
- (k) attaching the other end of the forehead strap to the head harness;
- (l) placing the chin strap under the chin cup of the cervical collar;
- (m) attaching the ends of the chin strap to the head harness;
- (n) placing the crown strap across the crown of the patient's head;
- (o) attaching the ends of the crown strap to the head harness;
- (p) attaching the center of the lateral stabilization strap to the forehead strap at the center of the patient's forehead;
- (q) attaching the ends of the lateral stabilization strap to the attachment straps;

whereby the patient's head will be immobilized and stabilized such that it cannot move laterally or be elevated; and

the patient's head can move longitudinally or rotate off of the longitudinal axis in conjunction with the patient's body.

19. The method of claim 18 wherein there is a layer of adhesive covering an area at the free end of the attachment straps on the lower surface of the attachment straps, the layer of adhesive having an easily removable protective cover;

the head harness is properly aligned on the spine by placing the harness underneath the patients head with the skid pad facing the spine board such that the attachment straps are even with the patient's eyes; and

the head harness is attached to the spine board by removing the protective cover from the layer of adhesive on each attachment strap, placing the adhesive material in contact with the spine board and applying pressure to the attachment straps.

20. The method of claim 18 wherein there is a portion of hook in loop material located on the interior surface of the side panels, the forehead strap has hook in loop material located on the surface of the forehead strap that will not be facing the forehead of the patient on the spine board, and a layer of adhesive material located on the surface of the forehead strap that will be facing the forehead of the patient on the spine board, the layer of adhesive having an easily removable protective cover; and

the length of the forehead strap is adjusted by cutting the forehead to a desired length, the forehead strap is attached to the head harness by engaging the hook in loop material on the exterior surface of the side panels with the hook in loop material on the forehead strap; and

the forehead strap is secured to the patient's forehead by removing the protective cover from the layer of adhesive on the forehead strap and forehead strap firmly placing the adhesive material in contact with the patient's forehead.

21. The method of claim 18 wherein there is a portion of hook in loop material located on the exterior surface of the side panels, a portion of hook in loop material located at the ends of the chin strap on the surface of the chin strap that will be facing the patient on the spine board, and a portion of hook in loop material located at the ends of the crown strap on the surface of the crown strap that will be facing a patient on a spine board;

the ends of the chin strap are attached to the head harness by engaging the hook in loop material on the exterior surface of the side panels with the hook in loop material on the chin strap; and

the ends of the crown strap are attached to the head harness by engaging the hook in loop material on the exterior surface of the side panels with the hook in loop material on the crown strap.

22. The method of claim 18 wherein there is a portion of hook in loop material on the upper surface of the end of the attachment straps that is opposite the main panel of the head harness and the lateral stabilization strap has hook in loop material located on the surface of the lateral stabilization strap that will be facing the forehead of a patient on a spine board;

the center of the lateral stabilization strap is attached to the forehead strap by engaging the hook in loop material on the lateral stabilization strap with the hook in loop material on the forehead strap; and

the lateral stabilization strap is attached to the attachment straps by engaging the hook in loop material on the lateral stabilization strap with the hook in loop material on the attachment straps.